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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/396,266	09/15/99	PETERSON	T 1998U007A.US

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UNIVATION TECHNOLOGIES L L C  
5555 SAN FELIPE SUITE 1950  
HOUSTON TX 77056

EXAMINER

LU,C  
ART UNIT PAPER NUMBER

1713  
DATE MAILED:

5  
08/30/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
**09/396,266**

Applicant(s)

**Peterson**

Examiner

**C. Caixia Lu**

Group Art Unit

**1713**



☐ Responsive to communication(s) filed on \_\_\_\_\_.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-32 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-32 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims 1-32 are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

## DETAILED ACTION

### *Election/Restriction*

1. This application contains claims directed to the following patentably distinct species of the claimed invention: various J and Y in Claim 1 or 18.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, Claims 1 and 18 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Attorney Jaimes Sher on August 25, 2000 a provisional election was made with traverse to prosecute the invention wherein J is defined as group 16 atom and Y is defined as a C<sub>1</sub> to C<sub>100</sub> hydrocarbyl group. Affirmation of this election must be made by applicant in replying to this Office action. The rest of the J and Y species are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### *Specification*

The disclosure is objected to because of the following informalities: Y defined as "a substituted group 13-17 heteroatom group" on page 9 between lines 16-17 does not make sense.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

#### Claims 1, 13, 30 and 18

According to the specification, J seems to define a divalent group and Y a monovalent group; however, when as a Group 15 atom, J will be trivalent and have one extra bond after bonding with

Y, when as a group 17 atom, J will be monovalent and not have any free bond to bond with Y. In both cases, the catalyst precursor formula will be incorrect.

Claims 9 and 26

According to the specification, Y seems to be a monovalent group; however, when Y is defined as Groups 13-16 heteroatom, there will be extra bond(s) on Y after bonding with J, thus, the catalyst precursor formula will be incorrect.

Claims 5 and 22

Rejection maintained:  $\text{indenyl} \neq \text{indene}$   
 $\text{fluoryl} \neq \text{fluorene}$

The terms "indene" and "fluorene" lack antecedent basis.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutsui et al. (US 5,700,750).

The instant claims are directed to an olefin polymerization process in the presence of a catalyst system comprising a metallocene compound represented by formula  $C_pD^a(JY)(Q)_{(a-2)}$  and an activator.

Tsutsui et al. teach an olefin polymerization process in the presence of a catalyst system comprising a metallocene compound represented by formula  $R^1R^2R^3R^4M$  and an activator of aluminoxane, wherein M can be Zr, Hf or Ti;  $R^1$  can be substituted or unsubstituted cyclopentadienyl

$Cp_2 \leftarrow$   
 $Cp$

or indenyl,  $R^2$  can be phenoxy, and  $R^3$  and  $R^4$  can be benzyl (col. 4, line 20 to col. 5, line 16). The generic teaching of Tsutsui et al. encompasses the instant claim.

Thus, it would have been obvious to a skilled artisan <sup>amplify</sup> at the time the invention to employ the process of Tsutsui et al. to prepare a polyolefin in the presence of a catalyst system comprising a metallocene compound represented by formula  $R^1_n R^2_n R^3_m R^4_n M$  and an activator of aluminoxane <sup>to answer at the claim</sup> since such is within the generic teaching of Tsutsui et al. and in the absence of showing of criticalities and unexpected results. <sup>and expected to work</sup>

7. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell, Jr. (US 5,206,197).

Campbell, Jr. teaches a catalyst system which is the same and substantially similar to that of the instant claims (col. 1, line 48 to col. 2, line 15; col. 3, lines 35-53). However, Campbell, Jr.'s catalyst system is used for the polymerization of vinyl aromatic monomers with high syndiotacticities.

Although Campbell, Jr. do not teach polymerization of  $\alpha$ -olefins with their catalyst system, a skilled artisan would have expected that Campbell, Jr.'s catalyst system can be used for the  $\alpha$ -olefin polymerization as well since  $\alpha$ -olefins and vinyl aromatic monomers contains the same vinyl functional group.

Thus, it would have been obvious to a skilled artisan at the time the invention to employ the catalyst system of Campbell, Jr. to polymerize  $\alpha$ -olefins since is conventionally done in the art to improve the structure regularities of the polyolefin and in the absence of showing of criticalities and unexpected results. <sup>same reaction mechanism</sup>

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu (Ph. D.) whose telephone number is (703) 306-3434. The examiner can normally be reached from 9:00 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are:

(703) 305-5408 (official)

(703) 305-3599 (official after final)

(703) 305-5885 (unofficial).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

CL

August 25, 2000



DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700